

# Teacher's Scoring Guide

ISTEP+



**Grade 4**  
**Mathematics**  
**Fall 2008**

Indiana Statewide Testing for Educational Progress



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## INTRODUCTION

During the fall of 2008, Indiana students in Grades 3 through 8 and Grade 10 participated in the administration of *ISTEP+*. The test for *ISTEP+* Fall 2008 consisted of a multiple-choice section and an applied skills section. For the fall testing, the multiple-choice section was machine-scored. The applied skills section, which consisted of open-ended questions, was hand-scored.

Test results for both the multiple-choice and applied skills sections as well as images of the applied skills student responses will be available online in late November 2008. *ISTEP+* Student Labels and Student Reports will be sent to the schools in early December 2008. It is the expectation of the Indiana Department of Education that schools will take this opportunity to invite students and parents to sit down with teachers to discuss the results. To support this endeavor, the Indiana Department of Education has prepared the following *Teacher's Scoring Guide*. The purpose of this guide is to help teachers to:

- understand the methods used to score the *ISTEP+* Fall 2008 applied skills section, and
- discuss and interpret these results with students and parents.

In order to use this guide effectively, you will also need the Student Report and a copy of the student's applied skills responses.

There are two scoring guides for Grade 4, English/Language Arts and Mathematics. In this Mathematics guide, you will find:

- an introduction,
- a list of the Mathematics Grade 3 Indiana Academic Standards,\*
- rubrics (scoring rules) used to score the open-ended questions,
- anchor papers that are actual examples of student work (transcribed in this guide for clarity and ease of reading), and
- descriptions of the ways in which the response meets the rubric criteria for each of the score points.

When you review the contents of the scoring guide, keep in mind that this guide is an overview. If you have questions, write via e-mail ([istep@doe.in.gov](mailto:istep@doe.in.gov)) or call the Indiana Department of Education at (317) 232-9050.

\* Because *ISTEP+* is administered early in the fall, the Grade 4 test is based on the academic standards through Grade 3.

## **INTRODUCTION TO THE MATHEMATICS APPLIED SKILLS SECTION**

The applied skills section that students responded to this past fall in Grade 4 allowed the students to demonstrate their understanding of Mathematics in a variety of ways, such as utilizing punchout tools, explaining a solution, drawing a picture, or interpreting a table or graph.

### **STRUCTURE**

The applied skills section for Grade 4 Mathematics was divided into two tests, Test 7 and Test 8. Each test consisted of six open-ended questions.

### **SCORING**

Each open-ended question was scored according to its own rubric. A rubric is a description of student performance that clearly articulates the requirements for each of the score points. Scoring rubrics are essential because they ensure that all papers are scored objectively. Each rubric for this administration of the *ISTEP+* Grade 4 Mathematics assessment has a maximum possible score of two or three score points.

**NOTE:** Images of the questions and student work have been reduced to fit the format of this guide. As a result, figures and diagrams in measurement questions will appear smaller in this guide than in the actual test book.

Rubrics are established prior to testing to describe the performance criteria for each score point. The performance criteria determine the number of score points possible for each question. This process ensures that all responses are judged objectively.

1. Students should not be penalized for omitting:

- degree symbols
- dollar signs (\$) or cent signs (¢)
- zeros for place holders; for example, either 0.75 or .750 could be used
- labels for word problems; for example, *miles*

**NOTE:** Students WILL be penalized for use of incorrect labels.

2. Students should not be penalized for:

- spelling or grammar errors
- using abbreviations; for example, *ft* or *feet* would be acceptable

3. Students should be given credit for:

- entries in the workspace that indicate understanding of a complete process even if the response on the answer line is incorrect (i.e., the student would receive partial credit for questions with rubrics that allow for scoring the work)
- answers not written on the answer line; for example, an answer could be given in the workspace or in the explanation (however, in some cases, because of the multiple calculations in the workspace, placement of an answer on the answer line is necessary to determine which response the student intended). Students WILL be penalized for incorrect answers written on the answer line even if the correct answer appears in the workspace.
- line graphs only if lines connect the points

### **CONDITION CODES**

If a response is unscorable, it is assigned one of the following condition codes:

A Blank/No response/Refusal

B Illegible

C Written predominantly in a language other than English

D Insufficient response/Copied from text

## MATHEMATICS GRADE 3

### INDIANA ACADEMIC STANDARDS

#### ☐ **Number Sense**

Students understand the relationships among numbers, quantities, and place value in whole numbers up to 1,000. They understand the relationship among whole numbers, simple fractions, and decimals.

#### ☐ **Computation**

Students solve problems involving addition and subtraction of whole numbers. They model and solve simple problems involving multiplication and division.

#### ☐ **Algebra and Functions**

Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number and functional relationships.

#### ☐ **Geometry**

Students describe and compare the attributes of plane and solid geometric shapes and use their understanding to show relationships and solve problems.

#### ☐ **Measurement**

Students choose and use appropriate units and measurement tools for length, capacity, weight, temperature, time, and money.

#### ☐ **Problem Solving**

Students make decisions about how to approach problems and communicate their ideas. Students use strategies, skills, and concepts in finding and communicating solutions to problems. Students determine when a solution is complete and reasonable and move beyond a particular problem by generalizing to other situations.

Problem Solving is identified as a Process Skill in the Indiana Academic Standards. To ensure that the *ISTEP+* questions that assess this Process Skill are grade-appropriate and that the questions use skills that are contained in the standards, these questions are developed by including at least two different indicators from Content Skills in addition to the indicator from the Process Skill. Some of the Content Standards included in the Content Skills are Computation, Geometry, and Algebra. The additional indicators may be from the same or different Content Skills.

The Content Skills used for each of the Process Skill questions in the Grade 4 applied skills section are shown in the following chart.

#### PROCESS SKILL QUESTIONS

Question	Process Skill	Content Skills <i>Item may map to more than one indicator in a standard.</i>
<b>Test 7</b>		
<b>2</b>	Problem Solving	Computation, Measurement
<b>4</b>	Problem Solving	Number Sense, Computation
<b>6</b>	Problem Solving	Number Sense, Computation
<b>Test 8</b>		
<b>3</b>	Problem Solving	Computation, Algebra and Functions
<b>5</b>	Problem Solving	Computation, Measurement

### Test 7—Question 1: Number Sense

- 1** The numbers below show the weights, in pounds, of different green sea turtles.

402   165   371   259   293

On the lines below, list the turtle weights in order from GREATEST to LEAST.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

On the line below, write down a number which is LESS than 410 and GREATER than the first number in your list.

**Answer** \_\_\_\_\_

#### Exemplary Response:

- 402, 371, 293, 259, 165

AND

- Any number between the first number on student list and 409

#### Rubric:

- |                 |                       |
|-----------------|-----------------------|
| <b>2 points</b> | Exemplary response    |
| <b>1 point</b>  | One correct component |
| <b>0 points</b> | Other                 |



### SCORE POINT 2

- 1** The numbers below show the weights, in pounds, of different green sea turtles.

402 165 371 259 293

On the lines below, list the turtle weights in order from GREATEST to LEAST.

402, 371, 293, 259, 165

On the line below, write down a number which is LESS than 410 and GREATER than the first number in your list.

Answer 404

### Test 7—Question 1 Score Point 2

This response matches the exemplary response contained in the rubric. The student orders the numbers correctly from greatest to least and gives a valid answer on the answer line. The response receives a Score Point 2.

### SCORE POINT 1

- 1** The numbers below show the weights, in pounds, of different green sea turtles.

402 165 371 259 293

On the lines below, list the turtle weights in order from GREATEST to LEAST.

402, 371, 293, 259, 165

On the line below, write down a number which is LESS than 410 and GREATER than the first number in your list.

Answer 402

### Test 7—Question 1 Score Point 1

This response contains one correct component. The student orders the numbers correctly. However, the number on the answer line is not greater than 402, the first number in the student's list. Therefore, this response receives a Score Point 1.

**Test 7—Question 1**  
**Score Point 0**

This response is incorrect. The student orders the numbers incorrectly and gives an invalid number on the answer line. Therefore, this response receives a Score Point 0.

**SCORE POINT 0**

- 1** The numbers below show the weights, in pounds, of different green sea turtles.

402 165 371 259 293

On the lines below, list the turtle weights in order from GREATEST to LEAST.

402, 293, 259, 371, 165

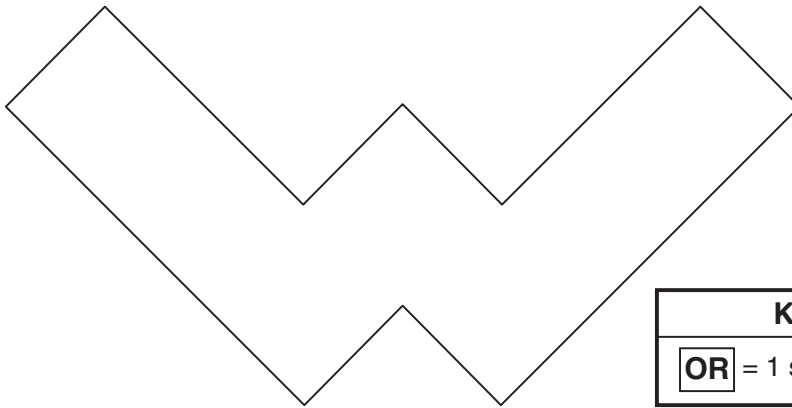
On the line below, write down a number which is LESS than 410 and GREATER than the first number in your list.

Answer 165

## Test 7—Question 2: Problem Solving

- 2**  Use your orange (**OR**) punchout shape to solve this problem.

Wendy has 4 “W” stickers like the one shown below.



**KEY**

**OR** = 1 square inch

Wendy uses all 4 stickers on her journal with none of the stickers touching another sticker.

What is the TOTAL AREA, in square inches, the stickers will cover?

**Show All Work**

**Answer** \_\_\_\_\_ square inches

**Exemplary Response:**

- 28 square inches

AND

- Correct process

Sample Process:

- One sticker is 7 sq. in.

$$7 + 7 + 7 + 7 = 28$$

OR

- Other valid process

**Rubric:**

<b>2 points</b>	Exemplary response
<b>1 point</b>	Correct answer only OR Correct process; error in computation
<b>0 points</b>	Other

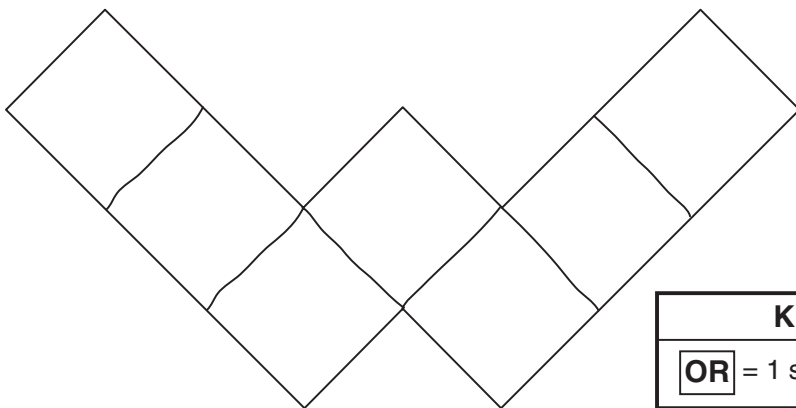
## SCORE POINT 2

2



Use your orange (OR) punchout shape to solve this problem.

Wendy has 4 “W” stickers like the one shown below.



### KEY

OR = 1 square inch

Wendy uses all 4 stickers on her journal with none of the stickers touching another sticker.

What is the TOTAL AREA, in square inches, the stickers will cover?

Show All Work

$$\begin{array}{r} 7 \\ 7 \\ 7 \\ +7 \\ \hline 28 \end{array}$$

Answer 28 square inches


## Test 7—Question 2 Score Point 2

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 28 square inches. The response receives a Score Point 2.

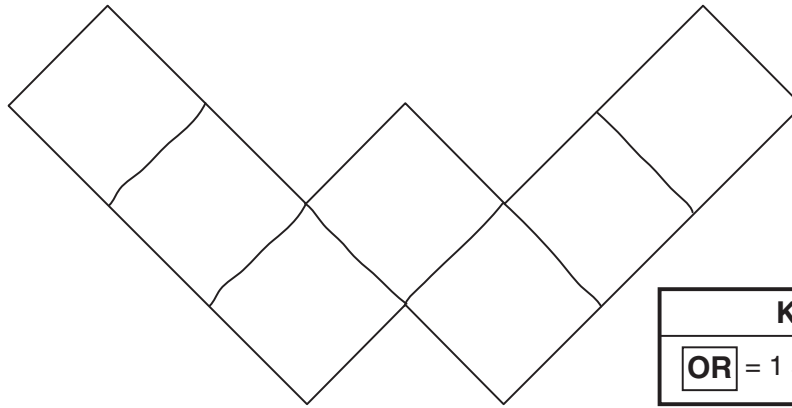
**Test 7—Question 2**  
**Score Point 1**

This response shows a correct process. However, the student makes an error in computation that leads to an incorrect answer. Therefore, this response receives a Score Point 1.

**SCORE POINT 1**

- 2**  Use your orange (OR) punchout shape to solve this problem.

Wendy has 4 “W” stickers like the one shown below.



**KEY**

**OR** = 1 square inch

Wendy uses all 4 stickers on her journal with none of the stickers touching another sticker.

What is the TOTAL AREA, in square inches, the stickers will cover?

**Show All Work**

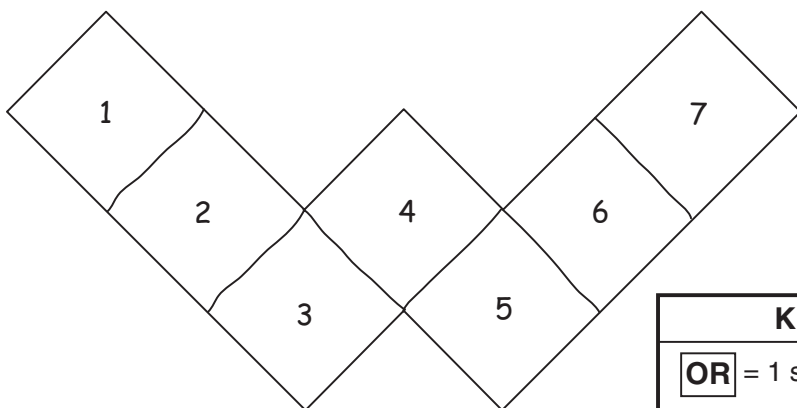
$$\begin{array}{r}
 4 \\
 \times 7 \\
 \hline
 28
 \end{array}
 \qquad
 \begin{array}{r}
 7 \\
 7 \\
 7 \\
 +7 \\
 \hline
 26
 \end{array}$$

**Answer** 26 square inches

**SCORE POINT 0**

- 2**  Use your orange (**OR**) punchout shape to solve this problem.

Wendy has 4 “W” stickers like the one shown below.



**KEY**

**OR** = 1 square inch

Wendy uses all 4 stickers on her journal with none of the stickers touching another sticker.

What is the TOTAL AREA, in square inches, the stickers will cover?

**Show All Work**

**Answer** 7 square inches

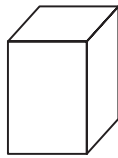
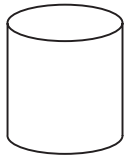
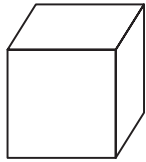
**Test 7—Question 2  
Score Point 0**

This response is incorrect. The student finds the area of one sticker instead of finding the area of all four stickers. Therefore, this response receives a Score Point 0.

### Test 7—Question 3: Geometry

**3** Use the following names to label each shape below.

cone, prism, cube, cylinder



\_\_\_\_\_

\_\_\_\_\_

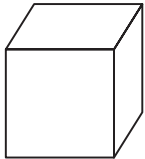
\_\_\_\_\_

\_\_\_\_\_

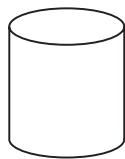
\_\_\_\_\_

#### Exemplary Response:

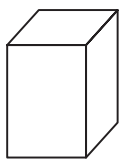
•



cube or prism



cylinder



prism



cone



cylinder

#### Rubric:

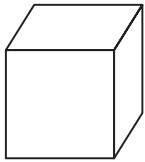
- 2 points** Exemplary response
- 1 point** Three or four shapes correctly labeled
- 0 points** Other



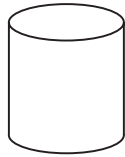
### SCORE POINT 2

**3** Use the following names to label each shape below.

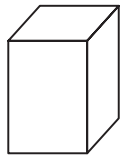
cone, prism, cube, cylinder



cube



cylinder



prism



cone



cylinder

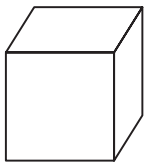
### Test 7—Question 3 Score Point 2

This response matches the exemplary response contained in the rubric. The student labels all five shapes correctly. The response receives a Score Point 2.

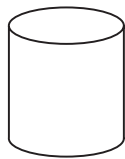
### SCORE POINT 1

**3** Use the following names to label each shape below.

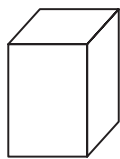
cone, prism, cube, cylinder



cube



cylinder



Prism



cone



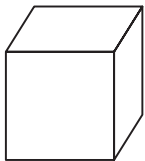
### Test 7—Question 3 Score Point 1

This response shows four correctly labeled shapes. Therefore, this response receives a Score Point 1.

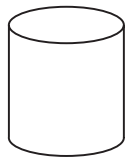
### SCORE POINT 0

**3** Use the following names to label each shape below.

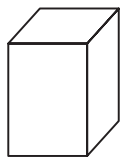
cone, prism, cube, cylinder



squire



cylinder



cube



cone



prism

### Test 7—Question 3 Score Point 0

This response shows only two correctly labeled shapes: cylinder and cone. Therefore, this response receives a Score Point 0.

### Test 7—Question 4: Problem Solving

- 4** The table below shows how many fifth- and sixth-grade students went to the History Museum on Wednesday, Thursday, and Friday of last week.

**History Museum Visitors**

Day	Number of Fifth-Graders	Number of Sixth-Graders
Wednesday	346	511
Thursday	587	348
Friday	172	624

On the lines below, explain how to use ESTIMATION to find which day had the greatest TOTAL number of students visit the museum. Be sure to include which DAY had the greatest total number of students.

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#### **Exemplary Response:**

- To estimate, you would round each number to the nearest 100 and add them for each day. Then you would see which day has the greatest number. Thursday had the most students.

OR

- Other valid response

#### **Rubric:**

- |                 |  |
|-----------------|--|
| <b>2 points</b> | Exemplary response                     |
| <b>1 point</b>  | Correct explanation of estimation only |
|                 | OR                                     |
|                 | Correct day chosen                     |
| <b>0 points</b> | Other                                  |

**SCORE POINT 2**

- 4** The table below shows how many fifth- and sixth-grade students went to the History Museum on Wednesday, Thursday, and Friday of last week.

**History Museum Visitors**

Day	Number of Fifth-Graders	Number of Sixth-Graders
Wednesday	346	511
Thursday	587	348
Friday	172	624

On the lines below, explain how to use ESTIMATION to find which day had the greatest TOTAL number of students visit the museum. Be sure to include which DAY had the greatest total number of students.

Estimate to the nearest hundred then add them up. Thursday  
had the most people.

**Test 7—Question 4  
Score Point 2**

This response matches the exemplary response contained in the rubric. The student correctly explains how to estimate and correctly states Thursday had the most students. The response receives a Score Point 2.

**Test 7—Question 4**  
**Score Point 1**

This response is partially correct. The student gives the correct day. However, the student does not explain how to use estimation to find the total number of students for each day. Therefore, this response receives a Score Point 1.

**SCORE POINT 1**

- 4** The table below shows how many fifth- and sixth-grade students went to the History Museum on Wednesday, Thursday, and Friday of last week.

**History Museum Visitors**

Day	Number of Fifth-Graders	Number of Sixth-Graders
Wednesday	346	511
Thursday	587	348
Friday	172	624

On the lines below, explain how to use ESTIMATION to find which day had the greatest TOTAL number of students visit the museum. Be sure to include which DAY had the greatest total number of students.

Thursday with about 900 students.

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**SCORE POINT 0**

- 4** The table below shows how many fifth- and sixth-grade students went to the History Museum on Wednesday, Thursday, and Friday of last week.

**History Museum Visitors**

Day	Number of Fifth-Graders	Number of Sixth-Graders
Wednesday	346	511
Thursday	587	348
Friday	172	624

On the lines below, explain how to use ESTIMATION to find which day had the greatest TOTAL number of students visit the museum. Be sure to include which DAY had the greatest total number of students.

Wednesday has the greatest total of students.

---

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**Test 7—Question 4  
Score Point 0**

This response is incorrect. The student gives an incorrect day and does not explain how to use estimation. Therefore, this response receives a Score Point 0.

### Test 7—Question 5: Algebra and Functions

- 5** In a game of darts, Julie scored 85 points, Trish scored 102 points, and Will scored 76 points.
- On the line below, write a number sentence to show how many MORE points Julie scored than Will.

**Number Sentence** \_\_\_\_\_

The game is over when one person scores 300 points.

On the line below, write a number sentence to show how many MORE points Trish must score to win the game.

**Number Sentence** \_\_\_\_\_

#### Exemplary Response:

- $85 - 76 = 9$
- OR
- Other valid number sentence
- AND
- $300 - 102 = 198$
- OR
- Other valid number sentence

#### Rubric:

- |                 |                       |
|-----------------|-----------------------|
| <b>2 points</b> | Exemplary response    |
| <b>1 point</b>  | One correct component |
| <b>0 points</b> | Other                 |

### SCORE POINT 2

- 5** In a game of darts, Julie scored 85 points, Trish scored 102 points, and Will scored 76 points.
- On the line below, write a number sentence to show how many MORE points Julie scored than Will.

Number Sentence 85 - 76 = 9

The game is over when one person scores 300 points.

On the line below, write a number sentence to show how many MORE points Trish must score to win the game.

Number Sentence 300 - 102 = 198

### Test 7—Question 5 Score Point 2

This response matches the exemplary response contained in the rubric. The student gives two correct number sentences. The response receives a Score Point 2.

### SCORE POINT 1

- 5** In a game of darts, Julie scored 85 points, Trish scored 102 points, and Will scored 76 points.
- On the line below, write a number sentence to show how many MORE points Julie scored than Will.

Number Sentence 85 - 76 = 9

$$\begin{array}{r} 715 \\ 85 \\ -76 \\ \hline 09 \end{array}$$

The game is over when one person scores 300 points.

On the line below, write a number sentence to show how many MORE points Trish must score to win the game.

Number Sentence 300 - 102 = 202

$$\begin{array}{r} 300 \\ -102 \\ \hline 202 \end{array}$$

### Test 7—Question 5 Score Point 1

This response shows only one correct number sentence. The number sentence  $300 - 102 = 202$  is incorrect. Therefore, this response receives a Score Point 1.

**Test 7—Question 5**  
**Score Point 0**

This response is incorrect. The student gives two incorrect number sentences. Therefore, this response receives a Score Point 0.

**SCORE POINT 0**

- 5** In a game of darts, Julie scored 85 points, Trish scored 102 points, and Will scored 76 points.
- On the line below, write a number sentence to show how many MORE points Julie scored than Will.

**Number Sentence**  $102 + 76 = 178$  more points.

The game is over when one person scores 300 points.

On the line below, write a number sentence to show how many MORE points Trish must score to win the game.

**Number Sentence**  $102 + 300 = 402$  points.



### Test 7—Question 6: Problem Solving

**6** Look at the numbers below.

819      83      206      54      791

What is the sum of the GREATEST ODD number and the LEAST EVEN number?

**Show All Work**

**Answer** \_\_\_\_\_

#### Exemplary Response:

- 873
- AND
- Correct process

Sample Process:

- greatest odd = 819  
least even = 54  
 $819 + 54 = 873$

OR

- Other valid process

#### Rubric:

- |                 |   |
|-----------------|---|
| <b>2 points</b> | Exemplary response  |
| <b>1 point</b>  | Correct answer only<br>OR<br>Correct process;<br>error in computation |
| <b>0 points</b> | Other   |

**Test 7—Question 6**  
**Score Point 2**

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 873. The response receives a Score Point 2.

SCORE POINT 2	
<b>6</b>	Look at the numbers below.
819      83      206      54      791	
What is the sum of the GREATEST ODD number and the LEAST EVEN number?	
<b>Show All Work</b>	
$\begin{array}{r} 819 \\ + 54 \\ \hline 873 \end{array}$	
Answer <u>873</u>	

**Test 7—Question 6**  
**Score Point 1**

This response shows a correct process. However, the student makes an error in computation when adding 9 and 4, which leads to an incorrect answer. Therefore, this response receives a Score Point 1.

SCORE POINT 1	
<b>6</b>	Look at the numbers below.
819      83      206      54      791	
What is the sum of the GREATEST ODD number and the LEAST EVEN number?	
<b>Show All Work</b>	
$\begin{array}{r} 819 \\ + 54 \\ \hline 872 \end{array}$	
Answer <u>872</u>	

**SCORE POINT 0**

**6** Look at the numbers below.

819      83      206      54      791

What is the sum of the GREATEST ODD number and the LEAST EVEN number?

**Show All Work**

$$\begin{array}{r} 1 \\ 791 \\ + 54 \\ \hline 845 \end{array}$$

**Answer** 845

**Test 7—Question 6  
Score Point 0**

This response is incorrect. The student does not use the greatest odd number to calculate the sum. Therefore, this response receives a Score Point 0.

### Test 8—Question 1: Computation

- 1** An office secretary is dividing 18 magazines equally among 6 meeting rooms.

How many magazines will be placed in each room?

**Show All Work**

**Answer** \_\_\_\_\_ magazines

#### Exemplary Response:

- 3 magazines
- AND
- Correct process

Sample Process:

- $18 - 6 = 12$   
 $12 - 6 = 6$   
 $6 - 6 = 0$

OR

- Other valid process

#### Rubric:

- |                 |  |
|-----------------|--|
| <b>2 points</b> | Exemplary response                       |
| <b>1 point</b>  | Correct answer only                      |
|                 | OR                                       |
|                 | Correct process;<br>error in computation |
| <b>0 points</b> | Other                                    |

**SCORE POINT 2**

- 1** An office secretary is dividing 18 magazines equally among 6 meeting rooms.

How many magazines will be placed in each room?

**Show All Work**

$$\begin{array}{r} 18 \\ - \textcircled{6} \\ \hline 0 \text{ } 12 \\ - \textcircled{12} \\ \hline 0 \text{ } 6 \\ - \textcircled{6} \\ \hline 0 \end{array}$$

**Answer** 3 magazines

**Test 8—Question 1  
Score Point 2**

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 3 magazines. The response receives a Score Point 2.

**SCORE POINT 1**

- 1** An office secretary is dividing 18 magazines equally among 6 meeting rooms.

How many magazines will be placed in each room?

**Show All Work**

$$18 \div 6 = 2$$

**Answer** 2 magazines

**Test 8—Question 1  
Score Point 1**

This response shows a correct process. However, the student makes an error in computation when dividing 18 by 6, which leads to an incorrect answer. Therefore, this response receives a Score Point 1.

**Test 8—Question 1**  
**Score Point 0**

This response is incorrect. The student shows an incorrect process and an incorrect answer. Therefore, this response receives a Score Point 0.

**SCORE POINT 0**

- 1** An office secretary is dividing 18 magazines equally among 6 meeting rooms.

How many magazines will be placed in each room?

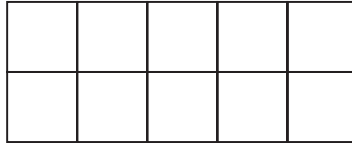
**Show All Work**

$$\begin{array}{r} 1 \\ 18 \\ + 6 \\ \hline 24 \end{array}$$

**Answer** 24 magazines

## Test 8—Question 2: Number Sense

- 2** A diagram of a quilt Dawn is making is shown below. Dawn plans to use red squares for 0.7 of the quilt.

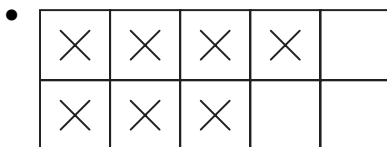


Mark an X on the squares in the diagram that need to be red in order to show one way Dawn could make 0.7 of the quilt red.

On the line below, write a fraction that has the same value as 0.7.

**Answer** \_\_\_\_\_

### Exemplary Response:



OR

- Other valid drawing

AND

- $\frac{7}{10}$

### Rubric:

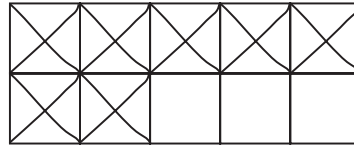
<b>2 points</b>	Exemplary response
<b>1 point</b>	One correct component
<b>0 points</b>	Other

**Test 8—Question 2**  
**Score Point 2**

This response matches the exemplary response contained in the rubric. The student correctly marks 7 of the squares and gives the correct fraction of  $\frac{7}{10}$ . The response receives a Score Point 2.

**SCORE POINT 2**

- 2** A diagram of a quilt Dawn is making is shown below. Dawn plans to use red squares for 0.7 of the quilt.



Mark an X on the squares in the diagram that need to be red in order to show one way Dawn could make 0.7 of the quilt red.

On the line below, write a fraction that has the same value as 0.7.

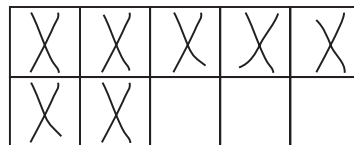
Answer  $\frac{7}{10}$

**Test 8—Question 2**  
**Score Point 1**

This response shows one correct component. The student correctly marks 7 of the squares. However, the student gives a decimal value for the remaining squares instead of a fraction value for the marked squares. Therefore, this response receives a Score Point 1.

**SCORE POINT 1**

- 2** A diagram of a quilt Dawn is making is shown below. Dawn plans to use red squares for 0.7 of the quilt.



Mark an X on the squares in the diagram that need to be red in order to show one way Dawn could make 0.7 of the quilt red.

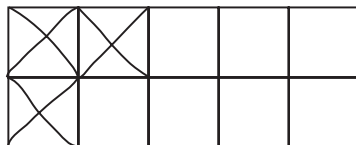
On the line below, write a fraction that has the same value as 0.7.

Answer 0.3



**SCORE POINT 0**

- 2** A diagram of a quilt Dawn is making is shown below. Dawn plans to use red squares for 0.7 of the quilt.



Mark an X on the squares in the diagram that need to be red in order to show one way Dawn could make 0.7 of the quilt red.

On the line below, write a fraction that has the same value as 0.7.

Answer        $\frac{7}{10}$       

**Test 8—Question 2  
Score Point 0**

This response is incorrect. The student gives two incorrect components. Therefore, this response receives a Score Point 0.

**Test 8—Question 3: Problem Solving**

- 3** Luis makes wooden boats and planes. He uses nails to hold the pieces of wood together. The tables below show the number of nails that Luis needs to make different numbers of boats and planes.

**Wooden Boats**

Number Made	Number of Nails
1	5
2	10
3	15
4	20

**Wooden Planes**

Number Made	Number of Nails
1	2
2	4
3	6
4	8

Luis has 52 nails. How many nails will Luis have LEFT if he makes 6 boats and 8 planes?

**Show All Work**

**Answer** \_\_\_\_\_ nails

**Exemplary Response:**

- 6 nails

AND

- Correct process

Sample Process:

- 5 nails for 1 boat

$$6 \times 5 = 30$$

2 nails for 1 plane

$$8 \times 2 = 16$$

$30 + 16 = 46$  nails for  
6 boats and 8 planes

$$52 - 46 = 6 \text{ nails}$$

OR

- Other valid process

**Rubric:**

<b>3 points</b>	Exemplary response
<b>2 points</b>	Correct answer only OR Correct process; error in computation
<b>1 point</b>	Correct process for determining the number of nails needed for 6 boats and 8 planes
<b>0 points</b>	Other

Test 8—Question 3  
Score Point 3

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 6 nails. The response receives a Score Point 3.

SCORE POINT 3

- 3 Luis makes wooden boats and planes. He uses nails to hold the pieces of wood together. The tables below show the number of nails that Luis needs to make different numbers of boats and planes.

Wooden Boats		Wooden Planes	
Number Made	Number of Nails	Number Made	Number of Nails
1	5	1	2
2	10	2	4
3	15	3	6
4	20	4	8

Luis has 52 nails. How many nails will Luis have LEFT if he makes 6 boats and 8 planes?

Show All Work

5	25
6	30

5	10
6	12
7	14
8	16

$$\begin{array}{r} 30 \\ +16 \\ \hline 46 \\ 1 \\ \cancel{52} \\ -46 \\ \hline 06 \end{array}$$

Answer 6 nails

## SCORE POINT 2

- 3** Luis makes wooden boats and planes. He uses nails to hold the pieces of wood together. The tables below show the number of nails that Luis needs to make different numbers of boats and planes.

**Wooden Boats**

Number Made	Number of Nails
1	5
2	10
3	15
4	20

**Wooden Planes**

Number Made	Number of Nails
1	2
2	4
3	6
4	8

Luis has 52 nails. How many nails will Luis have LEFT if he makes 6 boats and 8 planes?

**Show All Work**

$$\begin{array}{r}
 20 \\
 + 10 \\
 \hline
 30
 \end{array}
 \qquad
 \begin{array}{r}
 8 \\
 + 8 \\
 \hline
 18
 \end{array}$$
  

$$\begin{array}{r}
 41 \\
 \cancel{5}2 \\
 - 48 \\
 \hline
 04
 \end{array}
 \qquad
 \begin{array}{r}
 30 \\
 + 18 \\
 \hline
 48
 \end{array}$$

**Answer** 4 nails

## Test 8—Question 3 Score Point 2

This response shows a correct process. However, the student makes an error in computation when adding 8 and 8, which leads to an incorrect answer. Therefore, this response receives a Score Point 2.

**Test 8—Question 3**  
**Score Point 1**

This response is partially correct. The student correctly determines the number of nails needed for 6 boats and 8 planes. However, the student does not use this information to find the number of nails left. Therefore, this response receives a Score Point 1.

**SCORE POINT 1**

- 3** Luis makes wooden boats and planes. He uses nails to hold the pieces of wood together. The tables below show the number of nails that Luis needs to make different numbers of boats and planes.

**Wooden Boats**

Number Made	Number of Nails
1	5
2	10
3	15
4	20

**Wooden Planes**

Number Made	Number of Nails
1	2
2	4
3	6
4	8

Luis has 52 nails. How many nails will Luis have LEFT if he makes 6 boats and 8 planes?

**Show All Work**

$$\begin{array}{r} 16 \\ + 30 \\ \hline 46 \end{array} \quad \begin{array}{r} 15 \\ + 15 \\ \hline 30 \end{array}$$

**Answer** 46 nails

**SCORE POINT 0**

- 3** Luis makes wooden boats and planes. He uses nails to hold the pieces of wood together. The tables below show the number of nails that Luis needs to make different numbers of boats and planes.

**Wooden Boats**

Number Made	Number of Nails
1	5
2	10
3	15
4	20

**Wooden Planes**

Number Made	Number of Nails
1	2
2	4
3	6
4	8

Luis has 52 nails. How many nails will Luis have LEFT if he makes 6 boats and 8 planes?

**Show All Work**

$$\begin{array}{r} 210 \\ \cancel{30} \\ - 16 \\ \hline 14 \end{array}$$

**Answer** 14 nails

**Test 8—Question 3  
Score Point 0**

This response is incorrect. The student finds the number of nails for 6 boats and 8 planes, but then uses this information incorrectly. Therefore, this response receives a Score Point 0.

## Test 8—Question 4: Number Sense

- 4** In the place-value charts below, show two DIFFERENT ways to represent the number seven hundred fifty-two.

hundreds	tens	ones

hundreds	tens	ones

### Exemplary Response:

- | hundreds | tens | ones |
|----------|------|------|
| 7        | 5    | 2    |

OR

- Other valid chart

AND

- | hundreds | tens | ones |
|----------|------|------|
| 6        | 15   | 2    |

OR

- Other valid chart

### Rubric:

<b>2 points</b>	Exemplary response
<b>1 point</b>	One correct component
<b>0 points</b>	Other



### SCORE POINT 2

- 4** In the place-value charts below, show two DIFFERENT ways to represent the number seven hundred fifty-two.

hundreds	tens	ones
7	5	2

hundreds	tens	ones
6	15	2

### Test 8—Question 4 Score Point 2

This response matches the exemplary response contained in the rubric. The student gives two correct place-value charts that represent the number 752. The response receives a Score Point 2.

### SCORE POINT 1

- 4** In the place-value charts below, show two DIFFERENT ways to represent the number seven hundred fifty-two.

hundreds	tens	ones
7	5	2

hundreds	tens	ones
5	2	7

### Test 8—Question 4 Score Point 1

This response shows only one correct place-value chart. The representation 5 hundreds, 2 tens, 7 ones does not equal 752. Therefore, this response receives a Score Point 1.

**Test 8—Question 4**  
**Score Point 0**

This response shows two incorrect place-value charts. Therefore, this response receives a Score Point 0.


**SCORE POINT 0**

- 4** In the place-value charts below, show two DIFFERENT ways to represent the number seven hundred fifty-two.

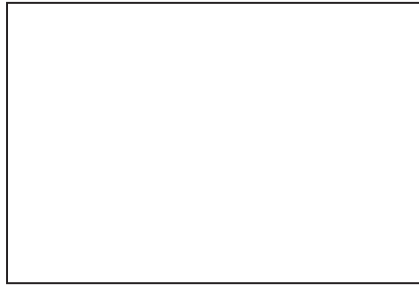
hundreds	tens	ones
700	5	2

hundreds	tens	ones
900	52	0

### Test 8—Question 5: Problem Solving

- 5**  Use your orange (**OR**) punchout shape to solve this problem.

Melissa divided the rectangle below into sections of the same size and shape as your orange (**OR**) punchout shape.



If she drew 4 stars in each section, how many stars did Melissa draw IN ALL?

**Show All Work**

**Answer** \_\_\_\_\_ stars

#### Exemplary Response:

- 24 stars
- AND
- Correct process

Sample Process:

- There are 6 sections in the rectangle.

$$4 + 4 + 4 + 4 + 4 + 4 = 24$$

OR

- Other valid process

#### Rubric:

- |                 |   |
|-----------------|---|
| <b>2 points</b> | Exemplary response  |
| <b>1 point</b>  | Correct answer only<br>OR<br>Correct process;<br>error in computation |
| <b>0 points</b> | Other   |

**Test 8—Question 5**  
**Score Point 2**

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 24 stars. The response receives a Score Point 2.

**SCORE POINT 2**

- 5**  Use your orange (**OR**) punchout shape to solve this problem.

Melissa divided the rectangle below into sections of the same size and shape as your orange (**OR**) punchout shape.




If she drew 4 stars in each section, how many stars did Melissa draw IN ALL?

**Show All Work**

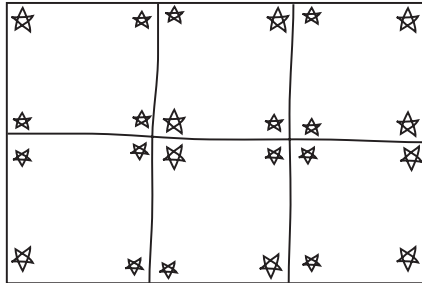
$$\begin{array}{r} + 4 \\ 4 \\ + 4 \\ + 4 \\ + 4 \\ + 4 \\ \hline 24 \end{array}$$

**Answer** 24 stars

## SCORE POINT 1

- 5**  Use your orange (OR) punchout shape to solve this problem.

Melissa divided the rectangle below into sections of the same size and shape as your orange (OR) punchout shape.



If she drew 4 stars in each section, how many stars did Melissa draw IN ALL?

**Show All Work**

$$\begin{array}{r} 2 \\ + 4 \\ 4 \\ 4 \\ 4 \\ 4 \\ 4 \\ 4 \\ \hline 27 \end{array}$$

**Answer** 27 stars


## Test 8—Question 5 Score Point 1

This response shows a correct process. However, the student makes an error in computation that leads to an incorrect answer. Therefore, this response receives a Score Point 1.

**Test 8—Question 5**  
**Score Point 0**

This response is incorrect. The student shows an invalid process and gives an incorrect answer. Therefore, this response receives a Score Point 0.

**SCORE POINT 0**

- 5**  Use your orange (**OR**) punchout shape to solve this problem.

Melissa divided the rectangle below into sections of the same size and shape as your orange (**OR**) punchout shape.



If she drew 4 stars in each section, how many stars did Melissa draw IN ALL?

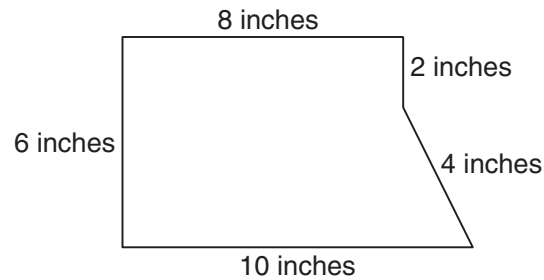
**Show All Work**

OR	OR	OR	OR
OR	OR	OR	OR

**Answer** 8 stars

### Test 8—Question 6: Measurement

- 6** What is the perimeter, in inches, of the figure shown in the diagram below?



**Show All Work**

**Answer** \_\_\_\_\_ inches

#### Exemplary Response:

- 30 inches

AND

- Correct process

Sample Process:

- $6 + 8 + 2 + 4 + 10 = 30$  inches

OR

- Other valid process

#### Rubric:

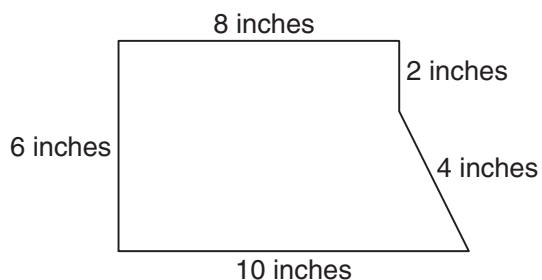
<b>2 points</b>	Exemplary response
<b>1 point</b>	Correct answer only OR Correct process; error in computation
<b>0 points</b>	Other

**Test 8—Question 6**  
**Score Point 2**

This response matches the exemplary response contained in the rubric. The student shows a correct process and gives the correct answer of 30 inches. The response receives a Score Point 2.

**SCORE POINT 2**

- 6** What is the perimeter, in inches, of the figure shown in the diagram below?



**Show All Work**

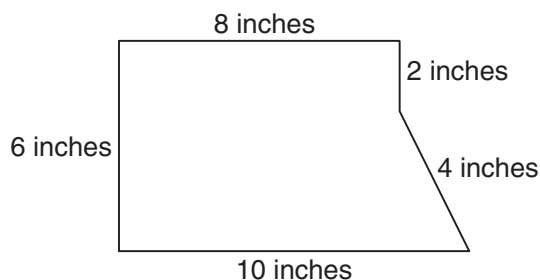
$$8 + 6 + 10 + 4 + 2 = 30$$

**Answer** 30 inches



**SCORE POINT 1**

- 6** What is the perimeter, in inches, of the figure shown in the diagram below?



**Show All Work**

$$\begin{array}{r} 8 \text{ in} \\ 10 \text{ in} \\ 6 \text{ in} \\ 4 \text{ in} \\ + 2 \text{ in} \\ \hline 40 \text{ in} \end{array}$$

**Answer** 40 inches

**Test 8—Question 6  
Score Point 1**

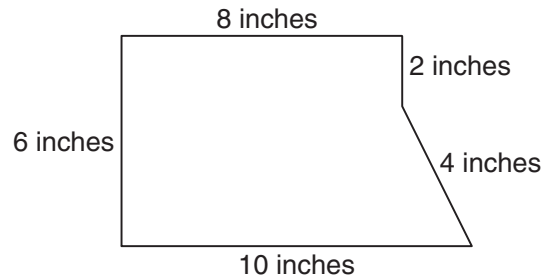
This response shows a correct process for finding perimeter. However, the student makes an error in computation when incorrectly carrying a 3 instead of a 2, which leads to an incorrect answer on the line. Therefore, this response receives a Score Point 1.

**Test 8—Question 6**  
**Score Point 0**

This response is incorrect. The student adds only 4 of the 5 side lengths in the figure. Therefore, this response receives a Score Point 0.

**SCORE POINT 0**

- 6** What is the perimeter, in inches, of the figure shown in the diagram below?



**Show All Work**

$$8'' + 2'' + 4'' + 6'' = 20''$$

**Answer** 20'' inches



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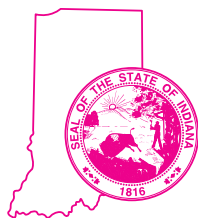
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# Grade 4 Mathematics

## Fall 2008 Teacher's Scoring Guide



Indiana Department of Education